"Training has been the glue that's held the Army together, but it's been more than that. It's been the substance that has set us apart and it's the thing that will set us apart in the 21st century. We won't lose that focus, but we can't continue to train as we have in the past. The resources aren't there, for one reason, but more importantly, the capabilities that are required don't lend themselves to that type of training program. We must become more comfortable with simulations. We must become more comfortable with distance learning. We have to understand that we have a total Army to train, so distance learning is very much a part of our future." – GEN Dennis Reimer, Army chief of staff, speaking at the Association of the United States Army symposium Feb. 11, 1997

Signal Corps links into 'knowledge age' with distance learning

by Lisa Alley

The American military set a precedent at one time: it began training everyone fairly liberally. A "common" soldier's training became the substance that set America's Army apart – as the Army's chief of staff noted in the above quote. It was an unusually egalitarian approach within a historically autocratic organization (the military structure and hierarchy in general).

With the knowledge age, anyone can learn anytime, anywhere. The Signal Corps knows it must capitalize on this technology to face the challenges of the modern and future battlefield. Distance learning, therefore, was a topic of briefings in the 1997 Signal symposium.

Four sessions touched on or focused on learning, specifically distance learning: a briefing from LTG Paul Kern, Army Acquisition Corps director; a briefing from LTG William Campbell, director of information systems for command, control, communications and computers; a workshop on training led by Gayle Olszyk, chief of training-management division, Regimental directorate of training at the Signal Center; and a representative from Training and Doctrine Command's Army distance-learning program. The Army and TRADOC perspective are covered in following articles, so this article will highlight only Kern's, Campbell's and Olszyk's sessions.

Symposium briefings

Kern's briefing of course was oriented toward acquisition, but he touched on learning being an absolute necessity for the 21st century Army. "We will never leave school," Kern said. "All of us need to be continually learning about new ways … as part of what we do everyday, getting on with the future."

Campbell spoke on distance learning as part of Enterprise XXI. The Army's high emphasis on distance learning, Campbell said, is linking TRADOC heavily to the total Army. TRADOC distance learning involves the armory, the Internet, units, the Total Army School System, digital libraries, simulations and simulators, embedded training, deployed units, computers and compact discs, training centers and one's home.

A recent Army initiative is Knowledge Office XXI, which Campbell called "America's Army on-line." The knowledge office "leverages the intellectual capital of America's Army," Campbell said. Part of the knowledge office's work will be with the Army's schools and training centers.

Leading everyone in distance learning is the National Guard, Campbell said. A number of colleges and universities have developed distance-learning programs. In fact, according to Campbell, Iowa has linked all its colleges and universities into virtual education. "Iowa is digitized," Campbell said.

Symposium workshop

One of the symposium's workshops was on the future of Signal Corps training, concentrating heavily on distance learning. Distance learning is the biggest initiative in the Army, Olszyk said, highly endorsed and emphasized by the Army's chief of staff.

Distance learning won't fundamentally change the way the Army trains, according to Olszyk, but it will leverage current and emerging technologies to enhance the way the Signal Corps goes about training. Training technologies include National Technological University, the teletraining network, interactive media and computer-based training.

The Signal Center's direction includes thinking of distance learning's future as a convergence of a mix of technologies, Olszyk said. Although the Signal Center will focus on the Internet, the goal is to choose the most appropriate and effective technology for a given instructional task.

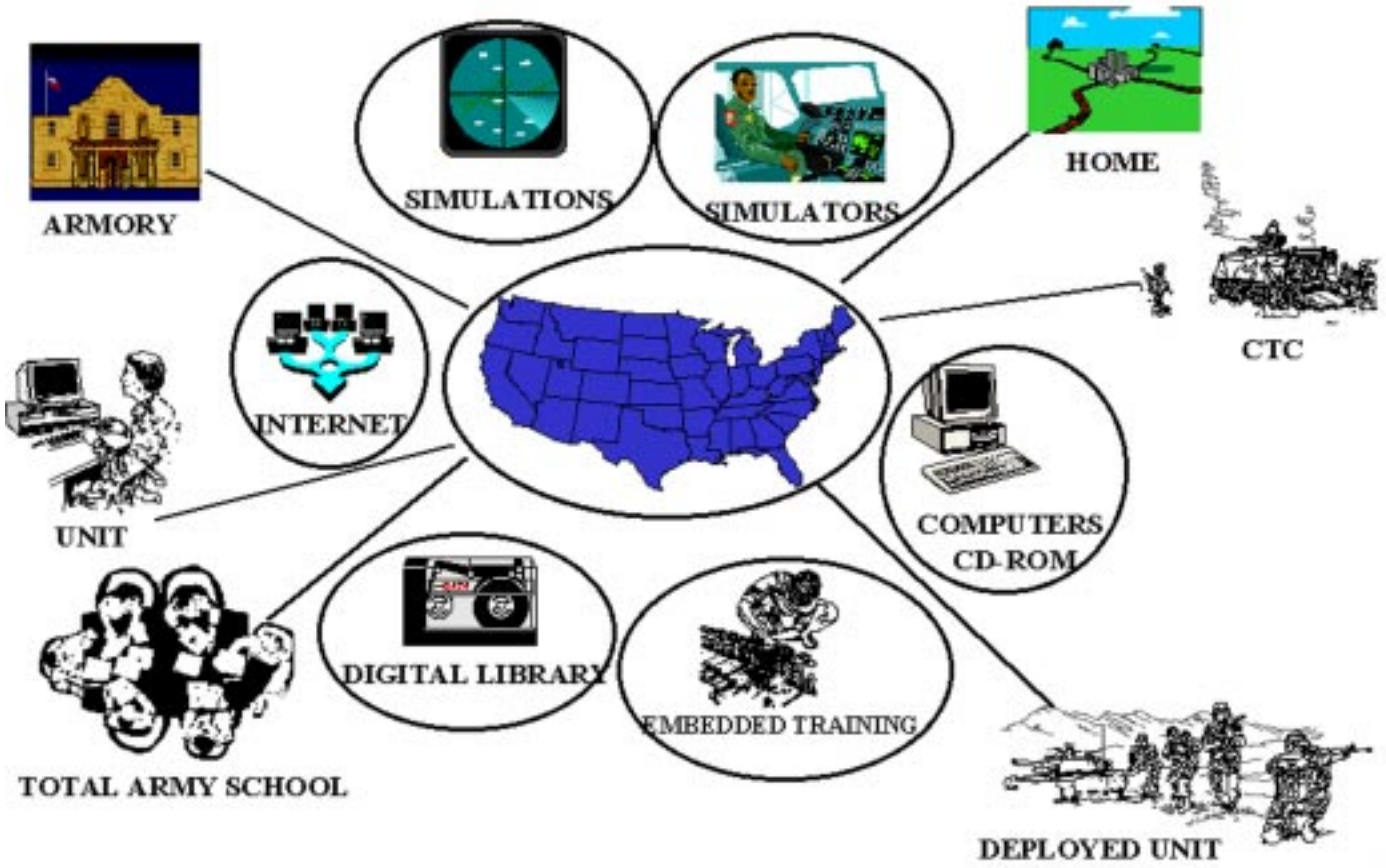

Figure 23. Army distance learning links Training and Doctrine Command to the total Army.

The transition period through 1999 may be one of flux as the existing training mission continues "in full force," Olszyk said. The Signal Center's goal is to have courseware, facilities and infrastructure – distance learning's three parts – available at the same time.

The Total Army School System at the Signal Center will use distance-learning technologies. Training experts see Training Vision XXI in the light of a "Signal university concept," according to Olszyk, and part of this will be distance learning. The trainers also see Conrad Library (see related story, Page 32) as the Signal Corps' Army-training digital library.

Part of the Army's virtual-education emphasis is Classroom XXI. A Classroom XXI memorandum of agreement between TRADOC and the Signal Center was signed Oct. 31, 1997. The MOA was based on a survey of Fort Gordon, Ga., made Oct. 27-31, 1997, Olszyk said.

The Signal Center is projected to receive one Level 3 classroom and two Level 1 classrooms (see related story, Page 28). These are low- to moderate-level virtual classrooms, a Level 5 classroom is a complete virtual-reality setup.

TNET is interactive training via video. TNET successes, according to Olszyk, have included Warnet pilot classes with Fort Hood, Texas, soldiers; sessions with military-occupation specialty 31U soldiers serving in the Sinai Desert; and several videoteleconferences and seminars.

Warnet pilot courses were designed as sustainment training specifically for Fort Hood and covered enhanced position-location reporting system needlines. MOS 31U soldiers in the Sinai took part in eight TNET sessions on trouble-shooting and maintaining personal computers; the single-channel ground and airborne radio system; AN / GRC-213; and tactical-satellite radios.

Regarding the Signal Corps' NTU project, an MOA was signed under the Defense Department's NTU consortium contract (see related story, Page 30). The 25E course was reactivated as part of NTU in fiscal year 1997; eight students were enrolled in this graduate telecommunications program linked with the 25E course, taught by Northwestern University and University of Colorado at Boulder.

NTU's hands-on multimedia short course had 64 students learning via live instruction, worldwide-web-based tutoring, electronic mail and VTCs.

In-house development is continuing on interactive multimedia instruction, said Olszyk. IMI will include technical manuals, introduction to TACSAT communications, electronic safety, AN / VIC-1, AN / VIC-3, introduction to combat-net radio, AN / PSC-7 tutorial and introduction to soldiering, in-progress.

Courses for 31P10 / 30 / 40

(microwave-systems operator-maintainer), 31U10/30/40 (Signal-support-systems specialist) and 31W40 (telecommunications-operations chief) have received contractor support for analysis and distance-learning design, according to Olszyk. The Signal Center's projected course conversions to distance learning include:

- 31U30/40 for FY98;
- 74B10 (information-systems operator-analyst) in FY99;
- 25C (Signal operations, an officer area of concentration), 250N (network-management technician, a future warrant-officer MOS), 251A (data-processing technician, a warrant-officer MOS being merged with MOS 250B) and 250B (tactical automated-network technician, a warrant-officer MOS), FY00;
- 31U10, FY01; and
- 31L10 (cable-systems installer-maintainer), FY03.

For more information on distance learning, TRADOC's homepage includes a hyperlink to the Army's distance-learning plan, according to Olszyk. To follow the Signal Center's distance-learning progress, read the quarterly update at http://www.gordon.army.mil/rdot/sigup/3q97ntro.htm (or current quarter; hypertext-markup-language file formulation would most likely be 4q97ntro.htm).

Acronym Quick-scan

FY – fiscal year
IMI – interactive multimedia instruction
MOA – memorandum of agreement
MOS – military-occupation specialty
MSE – mobile-subscriber equipment
NTU – National Technological University
TACSAT – tactical satellite
TNET – teletraining network
TRADOC – Training and Doctrine Command
VTC — videoteleconference

Distance learning to become 'way of doing business'

by Jim Caldwell

FORT MONROE, Va. (*Training and Doctrine Command News Service*) – Distance learning has earned financial backing from Army leadership and is on its way to becoming a "way of doing business."

The current Army program earmarks about $55 million a year from fiscal year 1998 through FY 2003 to establish distance-learning centers and classrooms and to develop courses. It's part of a plan to create a distance-learning system by 2010 that will serve the Army in the United States and overseas.

"By then it's just going to be a way of doing business," said LTC Steve Rodis, chief of the Army distance-learning program branch in Training and Doctrine Command's deputy chief of staff for training organization.

"It's a logical, sequential way that we've evolved to get the Army into the 21st century and to maximize the use of training technologies," said Rodis.

By 2010 there will be 745 classrooms at more than 200 sites, able to teach 525 courses to soldiers virtually at their home stations. But most of that system will be completed in the first five years, with 625 classrooms in operation.

Arriving at the goal will entail much work and planning.

TRADOC, however, has already laid the groundwork for the distance-learning system without waiting for Army funding. According to Rodis, GEN William Hartzog, TRADOC commander, has committed money over two years for pilot projects and course development.

The effectiveness of distance learning has been proven by satellite-transmitted training to soldiers deployed on peacekeeping missions. Primary leadership-development course classes have been made available to soldiers in the Sinai Desert so they can continue their military education to remain current with their counterparts throughout the Army.

Soldiers on duty in Bosnia also receive professional training through distance learning.

"We're trying to make training seamless between the operational and training sides of the house," Rodis said. "A soldier, even though he is deployed, will still have access to the training environment."

Military and college-level courses are ideal distance-learning material for soldiers on peacekeeping duties. But distance learning can be valuable in full-combat situations such as Operation Desert Storm. Critical training, such as language refresher, can be given to individuals right in the area. Maintenance solutions can be beamed directly from a motor pool or aviation center in the United States to mechanics in the theater.

Battle-staff noncommissioned-officer course training has also been delivered to soldiers at Fort Lewis, Wash.; Fort Hood, Texas; and Fort Bragg, N.C., from the U.S. Army Sergeants Major Academy at Fort Bliss, Texas. The resident version of the course is six weeks and two days. Distance-learning training reduced resident time to one week. That week, Phase III, is a command-post exercise.

"They're even taking a look at Phase III, after developing more expertise in simulation, and considering doing the entire course by distance learning," Rodis said.

Training officials from all Army major commands have identified an initial number of courses they need for their soldiers. TRADOC schools will develop the courses.

A priority ranking of courses over the five-year period has been devised.

"About 40 percent of the courses will be for reserve-component military-occupation specialty reclassification," Rodis said. "The (U.S. Army) Reserve really signed up for this. Distance learning will help them accomplish their mission because they have a limited amount of dollars and a limited amount of training days."

The Army Training Support Center at Fort Eustis, Va., created an organization that teaches course developers how to make lesson plans for distance learning formats.

The distance-learning plan recommends a desired mix of media for training, but the schools – as the training experts for MOSs – determine the best delivery media. Training may be done entirely by videoteletraining, CD-ROM, computer-based training, text, or by a combination of all media.

Distance-learning classrooms will be linked to a digital-training access center maintained at each TRADOC training center. An artillery soldier at any classroom anywhere in the Army will be linked to the DTAC at Fort Sill, Okla., to get to the information he needs. That link will be transparent to users, Rodis said.

Distance learning may even be available to soldiers who aren't near a center. The plan is to give imbedded systems in equipment in the future Army — such as tanks and Bradley fighting vehicles – the capability of plugging into the distance-learning network.

The distance-learning network has been classified as a major system. That means that development plans have to be approved by the Major Army Information Systems Review Council. For the first time, a program manager has been assigned to DCST to ensure milestones are met so the approved funds are released to TRADOC.

"We're very well positioned to make distance learning a reality in the Army," Rodis said. "The leadership has recognized that distance learning is an extremely efficient, reliable method of training soldiers in an era of scarce resources."

Acronym Quick-scan

DCST – deputy chief of staff for training organization
DTAC – digital-training access center
FY – fiscal year
MOS – military-occupation specialty
TRADOC – Training and Doctrine Command

Signal Corps distance learning: no longer over the horizon

by Norma Childs

Training has always been key to America's success on the battlefield. With America's present or future adversaries' ability to purchase off-the-shelf high-tech armaments, the critical difference will be a superior-trained American military force. As GEN Max Thurmond said, "Training will be the key to battle superiority."

The military services have always had dedicated, motivated individuals. However, battlefields will be complex, and precise information-processing and decision-making "on the run" will be the norm rather than the exception. The key will be to make sure our soldiers have the best and most up-to-date training available: training that will be delivered where needed, when needed, as needed.

That premise is the basis of the Army's distance-learning program.

GEN Dennis Reimer, Army's chief of staff, approved the ADLP plan April 19, 1996. In July 1997, the program was updated to become the ADLP master plan. ADLP-MP provides the long-range programming, planning and funding strategy for acquiring hardware, establishing distance-learning classrooms, providing infrastructure and developing courseware.

Distance learning, the ability to provide instruction to remote locations through electronic or interactive media, will gain tremendous importance in future Army training. People will train on their new equipment at a distance and be familiar with it once it's placed in their hands.

Distance learning will also allow the Army to leverage its dwindling pool of expert instructors' knowledge. With distance learning, an instructor not only can conduct classes with students at his or her location, but simultaneously at several remote sites.

Not all distance learning will be synchronous (instructor and students on-line at the same time). Distance learning can also be asynchronous, with instructor support off-line via electronic mail, the worldwide web or telephonically.

These abilities will be especially important for the reserve component. The Total Army School System requires that both the active and reserve component be trained to the same level. Distance learning provides the reserve component with an essential link to schoolhouse instruction.

Although ADLP began in fiscal year 1998, over the past two years there have been several pilot projects. Soldiers serving in Bosnia received professional training through distance learning via Training and Doctrine Command-provided courseware and civilian learning institutions. Soldiers in Bosnia also received training via the Army's teletraining-network satellite system and satellite-delivered community-college programs. The Signal Center has delivered military-occupation specialty 31U training to soldiers in the Sinai Desert and to troops at Fort Hood, Texas.

The goal is to make training a seamless architecture between the operational and training sides of the house.

ADLP-MP earned the Army leadership's financial backing. The current Army program-objective memorandum earmarks about $55 million a year from FY98 through FY03 (total $330 million) to create distance-learning centers and to develop courseware. By 2010 there will be 745 distance-learning-equipped classrooms at more than 200 sites. The Army will teach more than 525 courses to its soldiers virtually anywhere they're located.

Most of this new classroom infrastructure will be completed and operating in the first five years.

TRADOC's Classroom XXI/distance-learning site-survey team visited Fort Gordon, Ga., in October 1997. The team approved locations for installing four Level 3 classrooms: one Classroom XXI facility (for resident training, to be located in Greely Hall) and three facilities for distance learning. The distance-learning classrooms will mostly be for permanent-party personnel and reserve units within a 50-mile radius of Fort Gordon and will be located in Greely, Allen and Saltzman halls.

Also, sites for two Level 1 Classroom XXI facilities and the digital-training access center were approved. DTAC will be in Greely Hall, and the two Level 1 classrooms will be in Hazen and Dixon halls.

Installing these facilities will begin in second quarter FY98.

A Level 1 classroom will have instructor-enabled distance-learning access to DTAC. This classroom will primarily support discussion-type classes; however, the instructor will be able to access any training material from distant locations through his or her multimedia instructor workstation.

Level 2 classrooms will add multimedia student workstations. Each student will be able to access approved training material from a centralized source. This classroom will also be designed to use interactive-multimedia-instruction courseware.

A Level 3 classroom adds videoteletraining capability (two-way audio and video) and full access to the Internet. This classroom provides a foundation for collaborative training among branches and schools, or even commercial sources. Pilot projects have already connected senior courses at TRADOC schools with sites such as the National Training Center at Fort Irwin, Calif.

All distance-learning classrooms will be linked to a DTAC maintained at each TRADOC installation. DTAC will be the central repository for all approved training and soldier publication materials. Once the distance-learning network pipelines have been completed, a Signal soldier in any distance-learning classroom anywhere in the Army can be linked to the Signal Center's DTAC to get the training material he needs.

Training representatives from all Army major commands have identified a number of courses initially required for ADLP-MP. Although reviewed yearly, these training representatives have established a priority ranking of courses over the next five years. TRADOC schools will develop these distance-learning-based courses.

The Signal Center signed its first memorandum of agreement in August 1997 for converting MOS 3lU30 and 3lU40 to distance-learning courses. During the next year, the Area Communication Department and Regimental Noncommissioned Officer Academy will work with a contractor to develop these courses' distance-learning courseware. Other Signal courses will follow over the next few years.

LTC Steve Rodis, TRADOC's ADLP chief — referring to Army distance learning in 2010 — said, "By then, it's just going to be a way of doing business."

Ms. Childs works in the individual-training branch of the Signal Center's Regimental directorate of training, spearheading the Signal Center's distance-learning efforts. She is also the National Technological University coordinator for Fort Gordon. She holds a master's degree in instructional design from Florida State University, Tallahassee, Fla., and another master's in computer-based training from Columbia University, New York, N.Y.

Acronym Quick-scan

ADLP – Army distance-learning program
ADLP-MP – Army distance-learning program master plan
DTAC – digital-training access center
FY – fiscal year
MOS – military-occupation specialty
TRADOC – Training and Doctrine Command